

LICENSEE EVENT REPORT (LER)															Form Rev. 2.0	
Facility Name (1) Quad Cities Unit One										Docket Number (2) 0 5 0 0 0 2 5 4					Page (3) 1 of 0 4	
Title (4) Train "B" of Control Room HVAC System Inoperable Due to Loss of Refrigerant.																
Event Date (5)			LER Number (6)				Report Date (7)			Other Facilities Involved (8)						
Month	Day	Year	Year		Sequential Number	Revision Number	Month	Day	Year	Facility Names	Docket Number(s)					
										Quad Cities Unit 2	0 5 0 0 0 2 6 5					
0 4	0 7	9 7	9 7	--	0 1 0	- 0 0	0 5	0 2	9 7		0 5 0 0 0					
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)													
POWER LEVEL (10) 1 0 0			20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)	
			20.405(a)(1)(i)				50.36(c)(1)				X 50.73(a)(2)(v)				73.71(c)	
			20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vii)				Other (Specify in Abstract below and in Text)	
			20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(viii)(A)					
			20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)					
			20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)					
LICENSEE CONTACT FOR THIS LER (12)																
NAME Charles Peterson, Regulatory Affairs Manager, ext. 3609										TELEPHONE NUMBER AREA CODE 3 0 9 6 5 4 - 2 2 4 1						
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS							
SUPPLEMENTAL REPORT EXPECTED (14)										Expected Submission Date (15)		Month	Day	Year		
YES (If yes, complete EXPECTED SUBMISSION DATE)										X NO						
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																

ABSTRACT:

On 040797, train "B" of the Control Room (CR) Heating, Ventilating, and Air Conditioning (HVAC) system was declared inoperable due to a loss of refrigerant. It was discovered that a fitting, on the refrigeration discharge line of the compressor, had a hairline split large enough to release most of the refrigerant charge. The fitting was replaced and the system was declared operable.

9705130382 970502
PDR ADOCK 05000254
S PDR

LER254\97\010.WPF

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION												Form Rev. 2.0	
FACILITY NAME (1)				DOCKET NUMBER (2)				LER NUMBER (6)				PAGE (3)	
								Year		Sequential Number		Revision Number	
Quad Cities Unit One				0 5 0 0 0 2 5 4				9 7		- 0 1 0		- 0 0	
2 OF 0 4													

TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2511 MWt rated core thermal power.

EVENT IDENTIFICATION: Train "B" of Control Room HVAC System Inoperable Due to Loss of Refrigerant.

A. CONDITIONS PRIOR TO EVENT:

Unit: 1 Event Date: 040797 Event Time: 1541
 Reactor Mode: 1 Mode Name: Power Operation Power Level: 100%

This report was initiated by Licensee Event Report 254\97-010.

Power Operation (1) - Mode switch in the RUN position with average reactor coolant temperature at any temperature.

Unit: 2 Event Date: 040797 Event Time: 1541
 Reactor Mode: 5 Mode Name: Refueling Power Level: 0%

Refueling - (5) Mode switch in the Shutdown or Refueling position with average reactor coolant temperature ≤ 140 degrees F and fuel in the reactor vessel with one or more vessel head closure bolts less than fully tensioned or with the head removed.

B. DESCRIPTION OF EVENT:

On 040797, Unit One was operating at 100% power and Unit Two was in a refueling outage with train "B" of the Control Room (CR) Heating, Ventilating, and Air Conditioning (HVAC) system in operation. At 1541 hours Mechanical Maintenance personnel noticed a visible oil and refrigerant mixture in the air of the train "B" CR HVAC equipment room. Operations was notified and secured the train "B" CR HVAC system. Radiation Protection was notified to monitor air quality before allowing personnel entry into the room. After a short evaluation period, the system was declared inoperable. Problem Identification Form (PIF) 97-1474 was originated. Technical Specification Limiting Condition of Operation 3.8.D.1.b was entered allowing the plant 30 days to restore the system to operable.

On 040897, the train "B" CR HVAC system was pressure tested with nitrogen to determine the source of the leak. It was discovered that a fitting, on the refrigeration discharge line of the compressor, had a hairline split large enough to release most of the refrigerant charge.

From 040997 through 042297 the fitting was replaced along with other work activities which were planned for an upcoming work window.

On 042297, after all repairs were made, QCOS 5750-11 "Control Room Emergency Filtration System 18 Month Test" was successfully performed and the system was declared operable.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION												Form Rev. 2.0	
FACILITY NAME (1)				DOCKET NUMBER (2)				LER NUMBER (6)				PAGE (3)	
								Year		Sequential Number		Revision Number	
Quad Cities Unit One				0 5 0 0 0 2 5 4				9 7 -		0 1 0 -		0 0	
TEXT Energy Industry Identification System (EIIIS) codes are identified in the text as [XX]													

C. CAUSE OF THE EVENT:

The failed fitting was sent to ComEd's System Materials Analysis Department (SMAD) for analysis. SMAD's evaluation concludes that the failure occurred due to vibration induced fatigue.

D. SAFETY ANALYSIS:

The safety consequences at the time of the event were minimal. The event in no way compromised the system's ability to provide filtered air to the Control Room during a radiological accident, e.g. a Design Basis Loss of Coolant Accident (LOCA).

In the case of a LOCA, the non safety related (NSR) train "A" CR HVAC system can be placed in the isolation line up to provide cooling to the CR. The safety related (SR) Air Filtration Unit (AFU) will be available to filter outside air and maintain the required positive pressure in the CR.

In the highly unlikely case where this event would have occurred in combination with a LOCA and a loss of offsite power (LOOP), the AFU will continue to operate and train "B" fan will operate without refrigerant therefore, dose limits to the Control Room would not be affected. If temperatures in the CR increase to unacceptable limits, train "A" can be returned to service, at Operations discretion, via feed from the 1/2 diesel generator.

NOTE: On 040997, Unit #1 was brought down for an unrelated forced outage therefore, both Units were in a mode outside the Technical Specification Applicability of the CR HVAC system.

This event had no effect on the health and safety of the public or on site personnel outside the Control Room.

E. CORRECTIVE ACTIONS:

1. The fitting was replaced under Nuclear Work Request (NWR) #970040018 and the system was tested satisfactorily.
2. Engineering Request #9702678 was originated by System Engineering to perform a complete vibration assessment of the compressor/condenser skid as well as all refrigerant piping. This assessment will be tracked under NTS #254-180-97-01001. Activities required as a result of this assessment will be tracked on subsequent NTS numbers.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION													Form Rev. 2.0	
FACILITY NAME (1)				DOCKET NUMBER (2)				LER NUMBER (6)				PAGE (3)		
								Year		Seq. Initial Number		Revision Number		
Quad Cities Unit One				0 5 0 0 0 2 5 4				9 7 -		0 1 0		- 0 0		
TEXT				Energy Industry Identification System (EIS) codes are identified in the text as [XX]								4 OF 0 4		

F. PREVIOUS EVENTS:

The following Licensee Event Report (LER) occurred 081295.

254/95-005 During performance of QCOS 5750-02, "Control Room Emergency Filtration System Monthly Test", the refrigerant compressor for the "B" Train CR HVAC system would not operate due to a loss of refrigerant. The root cause of this event was the failure of a brazed joint in the refrigerant piping, most likely caused by a poor original braze. The joint was repaired and all other joints were inspected and found to be acceptable.

G. COMPONENT FAILURE DATA:

The failed copper pipe fitting is part of the compressor/condenser skid and will be NPRDS reportable under the skid Equipment Identifier 1/2-9400-102.